

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 November 2001 (22.11.2001)

PCT

(10) International Publication Number  
WO 01/88114 A3

(51) International Patent Classification<sup>7</sup>: C12N 15/00

(21) International Application Number: PCT/EP01/05794

(22) International Filing Date: 18 May 2001 (18.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0012231.7 19 May 2000 (19.05.2000) GB

(71) Applicant (for all designated States except US): DEV-  
GEN NV [BE/BE]; Technologiepark 9, B-9052 Zwij-  
naarde (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): PLAETINCK,  
Geert [BE/BE]; Pontstraat 16, B-9820 Merelbeke (BE).  
RENARD, Jean-Pierre [BE/BE]; Peter Benoîtlaan  
141, B-9050 Gentbrugge (BE). MORTIER, Katherine  
[BE/BE]; Lange Boomgaardstraat 25, B- Gent (BE).  
BOGAERT, Thierry [BE/BE]; Wolvendreef 26g, B-8500  
Kortrijk (BE).

(74) Agent: BOULT WADE TENNANT; Verulam Gardens,  
70 Gray's Inn Road, London WC1X 8BT (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,  
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,  
MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL,  
TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW). Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF,  
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(ii)) for the following designations AE,  
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,  
KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG,  
SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA,  
ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL,  
SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ,  
MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE,  
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR),  
OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML,  
MR, NE, SN, TD, TG)
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
20 June 2002

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: GENE EXPRESSION SYSTEM

(57) Abstract: There are provided DNA constructs, including replicable cloning vectors and expression vectors, comprising a bac-  
tenophage promoter operably linked to an outtron sequence. The expression vectors provided by the invention are useful in the  
expression of recombinant polypeptides in host cells or organisms and are particularly useful in expression of recombinant polypep-  
tides in nematode worms such as *C. elegans*.

WO 01/88114 A3

NUC 38926

## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PC1/EP 01/05794

A. CLASSIFICATION OF SUBJECT MATTER		
IPC 7	C12N15/63 A01K67/033	C12N15/67 C12N15/85 C07K14/005 C12N9/12
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC 7 C12N C07K A01K		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)		
EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, CHEM ABS Data, EMBASE		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WIRTZ E ET AL: "Gene expression mediated by bacteriophage T3 and T7 RNA polymerases in transgenic trypanosomes" NUCLEIC ACIDS RESEARCH, vol. 22, no. 19, 1994, pages 3887-3894, XP002196041 figure 8	1,9
A	CONRAD R ET AL: "Insertion of part of an intron into the 5' untranslated region of a Caenorhabditis elegans gene converts it into a trans-spliced gene" MOL CELL BIOL, vol. 11, no. 4, April 1991 (1991-04), pages 1921-1926, XP001073410 figure 1B	1-18
-/-		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents:		
*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art *Z* document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
15 April 2002		29/04/2002
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer  Lonnoy, O

Form PCT/ISA/210 (second sheet) (July 1992)

## INTERNATIONAL SEARCH REPORT

Intr 'tional Application No  
PC1/EP 01/05794

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00 01846 A (MORTIER KATHERINE ;DEVGEN NV (BE); BOGAERT THIERRY (BE); PLAETINCK) 13 January 2000 (2000-01-13) cited in the application pGN401	1-18
A	WO 99 37770 A (DEVGEN NV ;BOGAERT THIERRY ANDRE OLIVER E (BE); CRIEKNINGE WIM MARI) 29 July 1999 (1999-07-29) figure 1E	1
A	KRAUSE M: "Transcription and Translation" METHODS CELL BIOL , vol. 48, 1995, pages 483-512, XP001073411	
A	WO 91 00905 A (US HEALTH) 24 January 1991 (1991-01-24)	
A	WO 00 09734 A (INTRONN HOLDINGS LLC) 24 February 2000 (2000-02-24)	
A	WO 97 22250 A (INTRONN LLC ;MITCHELL LLOYD G (US)) 26 June 1997 (1997-06-26) figure 2	
P, X	WO 01 32896 A (ALEXANDROV KIRILL ;JENA BIOSCIENCE GMBH (DE); GRUN MATHIAS (US)) 10 May 2001 (2001-05-10) figure 3	1-5, 8-10,13

## INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/EP 01/05794

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0001846 A	13-01-2000	AU 4907999 A	24-01-2000
		BR 9911802 A	22-01-2002
		CN 1323354 T	21-11-2001
		DE 1093526 T1	11-10-2001
		WO 0001846 A2	13-01-2000
		EP 1093526 A2	25-04-2001
		GB 2349885 A	15-11-2000
		GB 2362885 A	05-12-2001
		NO 20010019 A	05-03-2001
WO 9937770 A	29-07-1999	AU 2240899 A	09-08-1999
		AU 4608499 A	30-12-1999
		BR 9911097 A	13-02-2001
		CA 2318935 A1	29-07-1999
		CN 1305525 T	25-07-2001
		WO 9964586 A2	16-12-1999
		EP 1049776 A1	08-11-2000
		EP 1084242 A2	21-03-2001
		HU 0101593 A2	28-08-2001
		HU 0102349 A2	28-10-2001
		PL 342082 A1	21-05-2001
		PL 345951 A1	14-01-2002
		WO 9937770 A1	29-07-1999
WO 9100905 A	24-01-1991	US 5135855 A	04-08-1992
		AT 157701 T	15-09-1997
		AU 642657 B2	28-10-1993
		AU 6034490 A	06-02-1991
		CA 2063427 A1	08-01-1991
		DE 69031389 D1	09-10-1997
		DE 69031389 T2	19-03-1998
		EP 0484374 A1	13-05-1992
		ES 2109924 T3	01-02-1998
		JP 2525289 B2	14-08-1996
		JP 5501048 T	04-03-1993
		WO 9100905 A1	24-01-1991
		US 5126251 A	30-06-1992
WO 0009734 A	24-02-2000	US 6083702 A	04-07-2000
		US 6280978 B1	28-08-2001
		AU 5673599 A	06-03-2000
		EP 1105513 A2	13-06-2001
		WO 0009734 A2	24-02-2000
WO 9722250 A	26-06-1997	US 6013487 A	11-01-2000
		AU 1329997 A	14-07-1997
		WO 9722250 A1	26-06-1997
		US 6083702 A	04-07-2000
		US 6280978 B1	28-08-2001
		AU 730305 B2	01-03-2001
		CA 2240494 A1	26-06-1997
		EP 0883344 A1	16-12-1998
		JP 2000515362 T	21-11-2000
WO 0132896 A	10-05-2001	AU 1997901 A	14-05-2001
		WO 0132896 A1	10-05-2001